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ABSTRACT

A survey was conducted of 205 information systems departments to determine information about existing distance education programs, plans for future distance education programs, faculty selection and training, and advantages and disadvantages of distance education. Of the questionnaires returned by 46 information systems departments, only 12 were actually using distance education in their programs; however, an additional 9 departments planned to use distance education within 2 years. Lack of funding, equipment, administrative support, and faculty support were given as reasons why 18 of the information systems departments did not see distance education as a viable learning program. The most popular media used for distance education were Internet or World Wide Web-based instruction and interactive television (ITV). The reporting information systems departments were offering about the same number of undergraduate and graduate courses via distance education. Half of distance education faculty received no additional remuneration of released time for distance education assignments. The most popular type of training was specialized on-campus workshops and personalized one-on-one training or mentoring. (Contains 23 references.) (Author/AEF)

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SURVEY OF DISTANCE EDUCATION UTILIZATION IN INFORMATION SYSTEMS DEPARTMENTS

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

A survey was conducted of 205 information systems departments to determine information about existing distance education programs, plans for future distance education programs, faculty selection and training, and advantages and disadvantages of distance education.

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The most popular media used for distance education were Internet or Web-based instruction and interactive television (ITV). The reporting information systems departments were offering about the same number of undergraduate and graduate courses via distance education.

Half of distance education faculty received no additional remuneration of released time for distance education assignments. The most popular type of training was specialized on-campus workshops and personalized one-on-one training or mentoring.

INTRODUCTION

Distance education is the buzzword on many college and university campuses. For many, "distance education" refers to two-way interactive video as the delivery system; however, in the last two or three years, an increasing number of courses are being offered through the World Wide Web. Dighe (1996) sees electronic training (or distance education) resulting in educational reform through availability of top-quality education not restricted to academic location.

Although the term, distance learning, is frequently used, Holmberg (1989) and Keegan (1990) suggested distance education is a more appropriate term because distance learning (for students) and distance teaching (for teachers) are subterms for the broader, more inclusive term of distance education.

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A simple definition of distance education is instruction or education which occurs when educator and learner are separated by distance (Verduin & Clark, 1991). Willis (1993) expanded that simple definition to give a commonly accepted definition of distance education today:

> At its most basic level, distance education takes place when a teacher and student(s) are separated by physical distance, and technology (i.e., voice, video, data, and print) is used to bridge the instructional gap. (p. 4)

This paper will discuss: (1) the definition and terminology of distance education, (2) the history and background of distance education, and (3) distance education utilized by information systems departments.

BACKGROUND

The British were at the forefront of distance education, providing correspondence education at Oxford (1857) and Cambridge (1858). The U.S. offered university extension programs as an extension of the lyceum and Chautauqua movements in the mid 1800s. Illinois Wesleyan University offered the first correspondence program in the U.S. leading to a degree in 1873. By the 1910s, several universities (Chicago, Wisconsin, Kansas Texas, Nebraska, and Minnesota) by 1910 had extension or correspondence departments (Watkins, 1991).

The correspondence study of the 1800s were provided through printed text on paper. By 1910-1920, lantern slides and motion pictures were added to correspondence or extension study, followed by radio instruction by the 1920s (Sherow & Wedemeyer, 1990). In the 1940s, records and film were added to correspondence materials. By mid 1950s, several universities were offering one-way television as part of correspondence study in the mid 1950s (Wright, 1991). The University of Wisconsin, a leader in correspondence education in the U.S., was using private line audio networks, freeze-frame video, and telewriters (Baird & Monson, 1992). By the 1960s, correspondence study was used less and less, as one-way televised instruction became popular. Correspondence study was often perceived as a lower-quality mode for distance education.

A wide array of different technological delivery systems were used in the 1980s. Computers and electronic bulletin boards began to be used for some independent study programs (Wright, 1992). Also, during the 1980s, some universities such as Auburn University started videotaping instruction which was used for students at a distance--not on campus. Distance education was now using two-way audio and two-way video (Garrison, 1990).

By the 1990s, Internet or web-based courses began to gain momentum. Web-based courses have become quite popular as stand-alone courses or used in conjunction with two-way interactive televised courses. Web-based instruction, though very similar to the print-based correspondence study of the past, has not suffered from a perception of a lower-quality educational product.

What is required of distance education teachers? Distance education authorities (Gunawardena, 1990; Keegan, 1993; Moore, 1989; Willis, 1993; Zaborowski, 1993) suggest the following precepts for teaching via distance education:

1. Personalizing (focusing on individuals)
2. Interacting (providing opportunity for student participation)
3. Planning delivery or presentation style (planning for learning enhancement)
4. Providing feedback (devising feedback to determine effectiveness of instruction, to clarify misunderstandings, and to answer questions)

Are information systems departments utilizing distance education in programs and/or curricula? Anecdotal evidence suggests mixed answers. As leaders in technology, information systems departments frequently are at the forefront of new innovations. Many information systems professors are using Web-based technology for supplementing course assignments. When considering two-way interactive video or television, however, information systems departments appear to be lagging behind other business departments in the offering of distance education courses. Thus, a secondary objective of this study was to determine the status of distance education in information systems departments.

DISTANCE EDUCATION IN BUSINESS SCHOOLS

Many articles appear in the literature about the use of distance education for business classes (Magiera, 1994; Shorter & Johnson, 1994). A entire issue of the Journal for Education for Business (1996, March/April) was devoted to distance learning. Interestingly enough, very few of the articles describe information systems classes being taught via distance education. Wachter & Jatinder (1996) reported use of interactive television for teaching information systems at Ball State University; this MBA-level IS course has been offered via distance education since 1986. Bialac & Morse (1995) also described a graduate MIS course, Information Systems Concepts, offered via distance education at Georgia College & State University.

While two-way interactive television (or teleconferencing) was the buzz word in 1995, recent literature has focused on web-based or Internet courses as a distance education medium (Hall, 1996; Manjourides, 1997). Likewise, an increasing number of distance education classes were adding web-based instruction to the interactive television course (Wheeler, Batchelder, & Hampshire, 1996).

FINDINGS OF THE STUDY

The authors surveyed 205 schools listed in The College Blue Book as having departments of information systems (IS), management information systems (MIS), computer information systems (CIS), or business information systems (BIS). During December 1994 through January 1995, a five-page questionnaire was sent to the department chairperson of each of these 205 schools determining distance education usage by the department. Forty-six of the 205 schools returned usable questionnaires (a return rate of 22.4 percent). Only 12 (26.9%) of the 46 IS departments were using any form of distance education for IS classes; however, the questionnaire determined whether the 34 departments not using distance education had plans for using distance education in the future and the reasons why they were not considering distance education as a viable learning program.

Future Plans for Distance Education

Thirty-four of the information systems departments were not using distance education. Of the 34 schools not using distance education, 16 (34.8%) indicated plans to use distance education in the future. As shown in Table 1, nine of the 16 information systems departments (56.3%) were planning to use distance education within the next two years. Three of the IS departments (18.8%) were in the feasibility/ analysis stage, and four (25.0%) were uncertain when they would be using distance education in their departments.

TABLE 1

FUTURE PLANS TO USE DISTANCE EDUCATION IN INFORMATION SYSTEM DEPARTMENTS

Plans to Use Distance Education	No.	Percentage
Within next 12 months	5	31.3%
Within next 18 months	3	18.8%
Within next 24 months	1	6.3%
Feasibility/planning stage	3	18.8%
Unknown	4	25.0%
TOTAL	16	100.2%*

*Percentage is more than 100 percent because of rounding.

Reasons for Not Considering Distance Education

Table 2 presents reasons given by the 18 IS departments not considering distance education. A majority of the 18 IS departments listed lack of funding, lack of equipment, lack of administrative support, and lack of support by faculty members as reasons for not considering distance education.

TABLE 2

REASONS INFORMATION SYSTEMS DEPARTMENTS WERE NOT CONSIDERING DISTANCE EDUCATION

Reasons	No.	Percentage
Lack of funding	15	83.3%
Lack of equipment	13	72.2%
Lack of administrative support	10	55.6%
Lack of faculty support	12	66.7%
Other	4	22.2%
TOTAL	--*	--*

*Total is more than 18, and percentage is more than 100 percent because respondents could give more than one reason for not considering distance education.

Utilization of Distance Education Media

Twelve of the 46 IS departments reported utilizing some form of distance education media. As shown in Table 3, the 12 schools utilized a variety of distance education modes or media for classes. Most used more than one type of media. Internet or web-based instruction was the most commonly used distance education medium (58.3%) with two-way interactive television (ITV) used by 50 percent of the information systems departments. When combining both one-way and two-way ITV, 66.7 percent of the IS departments were using ITV for distance education delivery.

Reasons Departments Offer Distance Education

Why do IS departments offer distance education classes? Nearly sixty percent (58.3%) cited saving students travel and time from remote sites as a main reason for offering distance education classes. About one-fourth indicated they offered classes via distance education that would not normally have enough students to support an on-site faculty instructor.

TABLE 3

DISTANCE EDUCATION MEDIA USED BY INFORMATION SYSTEMS DEPARTMENTS

Distance Education Media	Number	Percentage
Internet or web	4	58.3%
ITV (two-way)	6	50.0%
ITV (one-way)	2	16.7%
Video	4	33.3%
Correspondence	4	33.3%
CI (one-way)	2	16.7%
CI (two-way)	2	16.7%
Other	1	8.3%
TOTAL	--*	--*

*Totals are more than 12, and percentages are more than 100 percent because some departments used more than one distance education medium or media for delivering distance education.

The IS departments reported a variety of different course titles in which distance education was utilized. Distance education course offerings for the 12 departments were almost evenly split between undergraduate and graduate offerings. One-third of the departments offered only undergraduate courses via distance education, and one-fourth offered only graduate classes. Another one-third of the departments offered both undergraduate and graduate courses.

Faculty Remuneration, Teaching Load, and Assignments

As Table 4 shows, half of the 12 IS departments provided no remuneration or reduction in teaching load. Four of the IS departments gave a reduced teaching load either for the current term or prior to the distance education assignment.

TABLE 4

REMUNERATION OF FACULTY FOR DISTANCE EDUCATION

Renumeration	Number	Percentage
None	6	50.0%
Additional payment	3	25.0%
Reduced teaching load for current term	3	16.7%
Reduced teaching load for prior to distance education assignment	2	16.7%
Extra credit or points for salary	1	8.3%
Extra credit or points for tenure	1	8.3%
Total	--*	--*

*Number is more than 12 and more than 100 percent because respondents could list more than one type of recnumeration for distance education instructors.

Three departments gave an additional salary or payment for teaching via distance education. Only two departments gave extra credit or points for either salary or tenure.

A majority (66.7 percent) of the IS departments offering distance education reported that faculty members volunteered for distance education instructional duties, and 33.3 percent were assigned distance education duties by either administrative personnel or senior academic staff members.

One of the concerns was how faculty received training for teaching via distance education. Table 5 shows that the largest percentage (58.3%) attended specialized distance education workshops on campus. No department reported attending specialized distance education workshops off campus. Half of the respondents received one-on-one training or mentoring. Approximately one-third of the IS departments indicated they received training via printed instruction books or manuals. One-fourth of the respondents said they received no training.

Table 5

TYPE OF TRAINING PROVIDED FOR DISTANCE EDUCATION FACULTY

Type of Training	Number	Percentage
Specialized workshops/ seminars (on-campus)	7	58.3%
Personalized one-on-one training or mentoring	6	50.0%
Written instruction manuals	4	33.3%
Videotape tutorials	1	8.3%
No training	3	25.0%
TOTAL	--*	--*

*Total is more than 12 and percentage is more than 100 percent because the 12 respondents could list more than one type of training for distance education faculty.

Advantages and Disadvantages of Distance Education

Tables 6 and 7 present the advantages and disadvantages of distance education as reported by the 12 IS departments. The highest percentage of respondents (66.7%) reported the ability to network with students at a distance as an advantage of distance education, and half cited the political advantage within the university/college environment as an advantage. Competing with other colleges and the opportunity to develop the state of the art technology were also given as advantages of distance education. Instructor cost savings was mentioned only by 16.7 percent of the departments.

In Table 8 shows, 83.3% of the IS departments listed the extra time and effort in preparing for distance education as a disadvantage with 58.3% reporting the lack of personalization for distance education students as a disadvantage. Lack of faculty availability for students and the reluctance of faculty to teach distance education courses was given as disadvantages by 41.7 percent of the information systems departments. Not surprising, 33.3 percent of the IS chairs indicated that the expense of the distance

TABLE 6

ADVANTAGES OF DISTANCE EDUCATION REPORTED BY INFORMATION SYSTEMS DEPARTMENTS

Advantages	Number	Percentage
Ability to network with students at a distance	8	66.7%
Political advantage within college/university environment	6	50.05%
Competing with other colleges/universities	5	41.7%
Opportunity to develop state of the art technology	4	33.3%
Instructor cost savings	2	16.7%
Promotion of joint programs	1	8.3%
Other	1	8.3%
Total	--*	--*

*Total is more than 12 and percentage is more than 100 percent because respondents could give more than one advantage.

education equipment was a disadvantage.

TABLE 7

DISADVANTAGES OF DISTANCE EDUCATION REPORTED BY INFORMATION SYSTEMS DEPARTMENTS

Disadvantages	Number	Percentage
Extra time and effort for d.e. preparation	10	83.3%
Lack of personalization for d.e. students	7	58.3%
Lack of faculty availability	5	41.7%
Reluctance of faculty to teach d.e.	5	41.7%
Expense of equipment	4	33.35
Other	2	16.7%
Total	--*	--*

*Total is more than 12 and percentage is more than 100 percent because respondents could give more than one disadvantage.

CONCLUSIONS

Based on the findings, the following conclusions are presented:

1. Slightly more than one-fourth of the IS departments were actually using distance education; however, an additional one-fifth were planning to use distance education within the next two years. Savings of travel and time for students was given as a main reason for offering distance education courses.

2. Lack of funding, lack of equipment, lack of administrative support, and lack of faculty support were the main reasons that IS departments gave for not considering distance education for their programs.

3. A majority of IS departments offering distance education were using Internet or web-based instruction and interactive television as distance education media.

4. Half of the IS departments offering distance education provided no extra remuneration or released time for faculty with distance education assignments. Most of the training for distance education faculty was provided by specialized on-campus workshops/ seminars.

5. A majority of the IS departments listed advantages of distance education as the ability to network with students and political advantage within the university environment.

6. The two main disadvantages of distance education were given as the extra time and effort for distance education preparation and the lack of personalization for distance education students.

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